All version

Service
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Service Manual

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3141 785 31203

Version 1.3

PHILIPS

1.0 TECHNICAL SPECIFICATION

General

Dimensions (WxLxH):	18.9 x 14.7 x 3.7 cm 7.5 x 5.75 x 1.5 inches
Weight:	0.86 kg / 1.89 lb
Power supply:	DC 9V 1.8A
Operating temp. range:	0 - 50˚C (32 ~ 122˚F)
Laser wavelength:	650nm
Video system:	NTSC / PAL / AUTO
Frequency response:	20Hz ~ 20KHz ± 1dB
Signal/noise ratio:	≥85dB
Audio distortion + noise:	≤-80(1KHz)
Channel separation:	≥85dB
Dynamic range:	≥80dB
Output	
Audio out (analog audio):	Output level: 2V ± 10%
Load impedance:	10KΩ
Video out Output level:	1Vp - p ± 20%
Load impedance:	75Ω

Current consumption

DC-IN SUPPLY (9.0V)	
Battery Charging Current	1.2A typ.
BATT. SUPPLY (7.2V)	
Power Off	0A
Playback with TFT on	<1.2A typ.
Playback without TFT on	<600mA
Battery playtime	>2.5hrs

Headphone out (headphone output load 2x16ohm)

Maximum output power:	>10mW
Frequency response:	20Hz - 20kHz
SNR (A-wght):	80dB typ.
THD (1kHz):	<1%
Left-Right Channel Separation:	32dB typ.
Left-Right Channel Balance:	1dB

Supported disc type

DVD video discs:

Video CD:

Audio CD:

MP3-CD:

In addition, this unit can play DVD+R & DVD+RW and CD-R & CD-RW that contains audio titles or MP3 or JPEG files.

You cannot play disc other than the above listed.
(CVD, CD-ROM, CD-Extra, CD-G and CD-I discs cannot be played on this DVD player)

Software upgrades

For the best performance of your DVD Portable. Check **www.philips.com/support** for latest software upgrades available.

To check the software version of your DVD Portable.
1. Press the SETUP key to enter the setup menu.
2. Press RETURN and then press 1. 2 and 3 on the remote control.
3. The display will show the software version as the date of which the software was built on the bottom of the screen. E.g. 050303

Procedure on how to upgrade the software of the DVD Portable
1. Download the latest software from the Philips support site.
2. Unzipped the files and then burn it onto a CD ROM then playback the CD ROM on the DVD Portable.

Pixel specification

<= 4 (max. 1 bright dots and 3 dark dots)

2.0 SAFTETY INSTRUCTIONS

GB **WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

ESD

NL **WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

F **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

I **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utiliséés les piéces de rechange identiques à celles spécifiées.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

GB **Warning !**

Invisible laser radiation when open.
Avoid direct exposure to beam.

S **Varning !**

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

SF **Varoitus !**

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

DK **Advarse !**

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

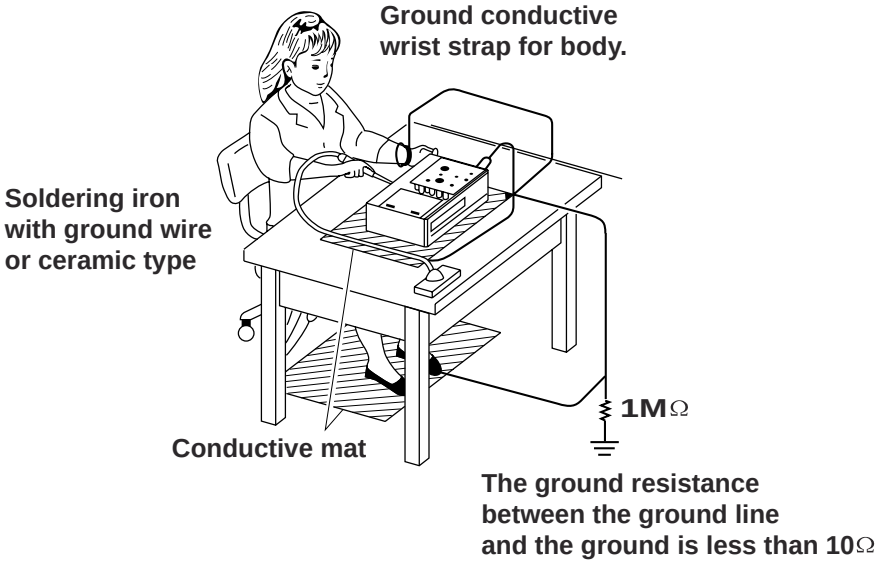
2.1 ESD PROTECTION

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electrocity.
Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire,etc. to protect the laser diode form damage by static electricity.
And also, the LSI and IC are same as above.



SAFTY NOTICE

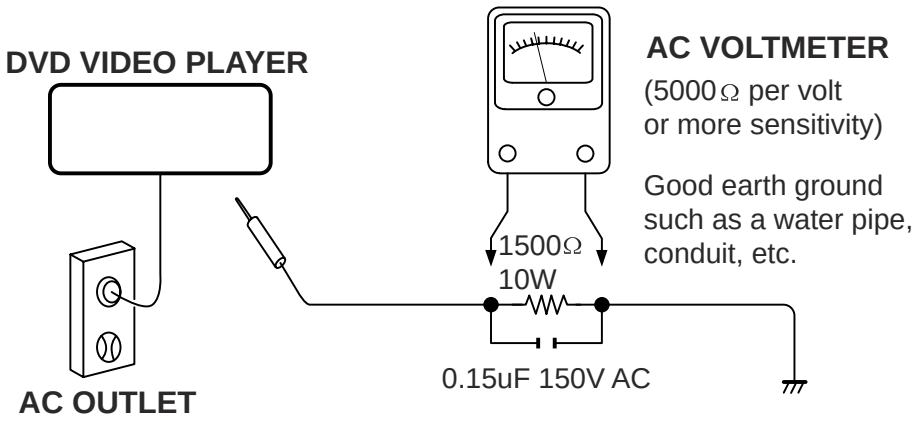
SAFTY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor,paralleled by a 0.15uF 150V AC capacitor between a knomn good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the 1500Ω resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V.A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected.
Repeat the above test with the DVD VIDEO PLAYER power plug reversed.
NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.

READING SHOULD NOT EXCEED 0.3V



Test all exposed metal.
Voltmeter Hook-up for Leakage Current Check

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

3.0 INSTRUCTIONS FOR USE

① ▲, ▼, ◀, ▶
Up / down / left / right cursor
OK
Confirms selection

② ⏸
Pause playback
▶
Starts / resumes playback
■
Press twice to stop playback
⏮ / ⏭
For previous (⏮) or next (⏭) chapters, tracks or titles
⏮ / ⏭
Search backward (⏮) or search forward (⏭)

③ **MENU**
Displays MENU page
MONITOR
Selection display
☼ To adjust the brightness with ◀ ▶
To adjust the color with ◀ ▶
To adjust the screen of 16:9 or 4:3 with ◀ ▶
AV-IN
A/V IN (AUX)

④ ⏏ **OPEN**
Opens disc door to insert or remove disc

⑤ **IR REMOTE**
Remote sensor

⑥ **CHG/POWER**
Power and charging indicator
IR sensor
Remote sensor

⑦ **ON · POWER · OFF**
Switches the player on / off

⑧ **VOLUME**
Volume control

⑨ **PHONES 1 & 2**
Headphones jack

⑩ **A/V OUT**
Audio/video output jack

⑪ **A/V IN**
Audio/video input jack

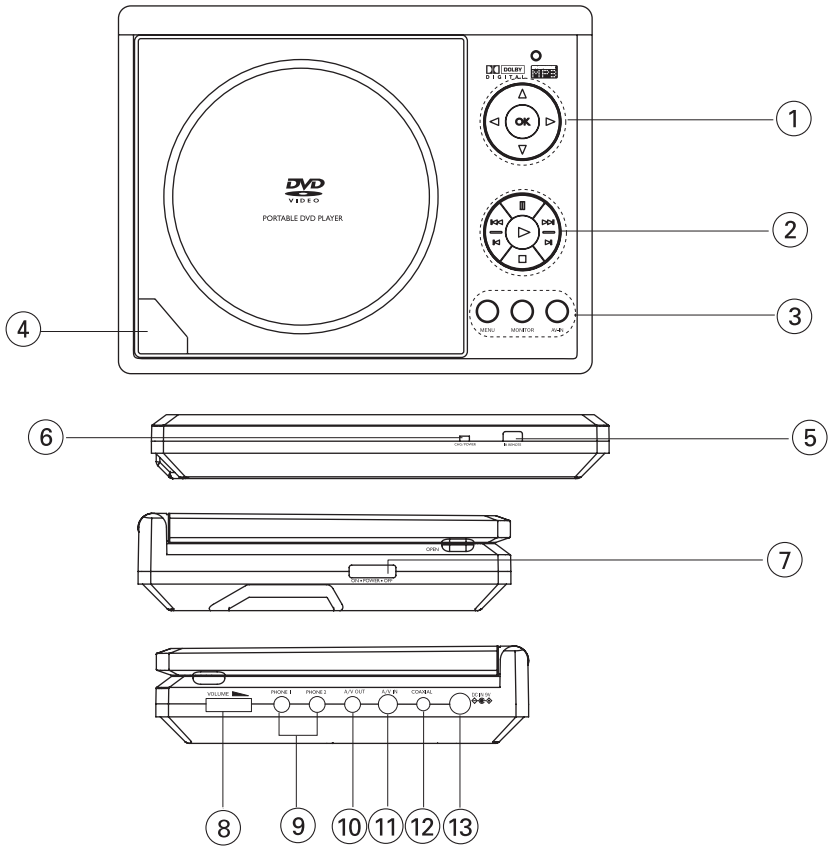
⑫ **COAXIAL**
Digital Audio output jack

⑬ **DC IN 9V**
Power supply socket

CAUTION

Use of controls or adjustments or performance of procedures other than herein may result in hazardous radiation exposure or other unsafe operation.

DVD PLAYER LAYOUT



Remote Control

① ◂, ▸, ◂, ▸
Up / down / left / right cursor
OK
Confirms selection

② **VOLUME**
Volume control

③ ⏮ / ⏭
For previous (⏮) or next (⏭) chapters, tracks or titles
⏸
Pause playback
▸
Starts / resumes playback
■
Press twice to stop playback
◂◂ / ▸▸
Search backward (◂◂) or search forward (▸▸)

④ **OSD**
On **S**creen **D**isplay on / off
⏭
Slow motion

⑤ **AUDIO**
Audio langauge selector
ZOOM
Enlarges video image

⑥ **A > B**
To repeat or loop a sequence in a title
PLAY-MODE
Selects play order options

⑦ **0 - 9**
Numeric keypad

⑧ **MUTE**
Muting play volume
REPEAT
Repeats chapter / title / disc

⑨ **RETURN**
For VCD menu page
ANGLE
Selects DVD camera angle

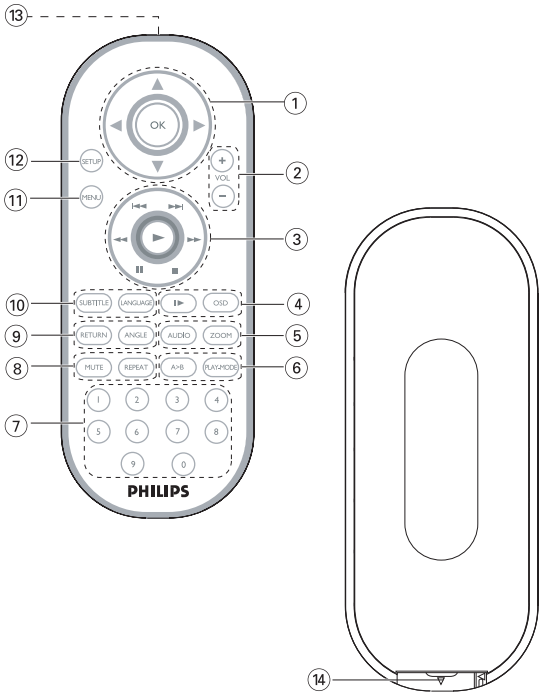
⑩ **SUBTITLE**
Subtitle language selector
LANGUAGE
Language selector

⑪ **MENU**
Displays MENU page

⑫ **SETUP**
Enters SETUP menu

⑬ **INFRA RED PORT**

⑭ **BATTERY COMPARTMENT**



4.0 MECHNICAL INSTRUCTIONS

1. Back View as Fig.1
   Remove screws to remove base

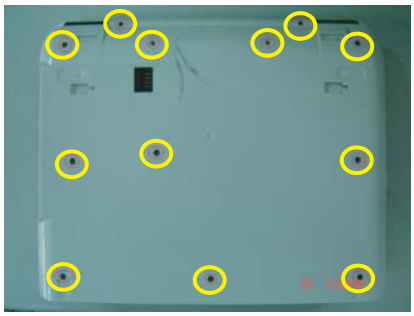


Fig.1

2. Soldered short pattern for laser diode as Fig.2

Fig.2

3. Remove DVD driver and main board as Fig.3,4
   Disconnect DVD driver and main board

Fig.3

Remove main board

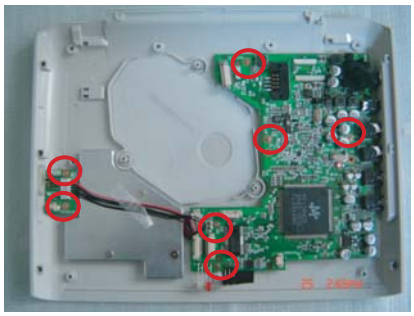


Fig.4

4. Remove key board and other parts as Fig.5

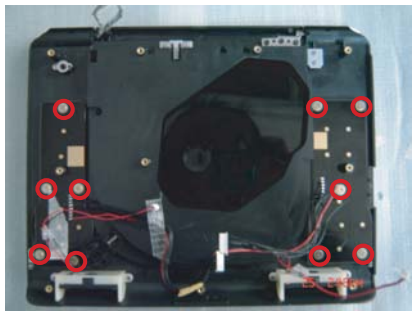


Fig.5

5. Remove top cover as Fig.6

Fig.6

6.Disconnect TFT and PTH board
  Remove PTH board as Fig.7.

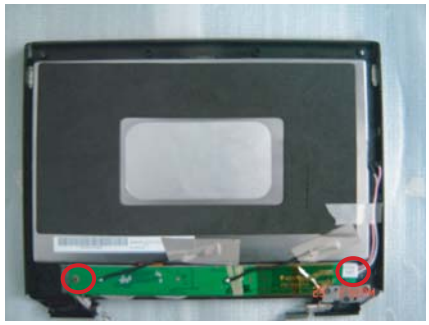


Fig.7

7. Remove LCD TFT as Fig.8.

Fig.8

Procedure to change regioncode

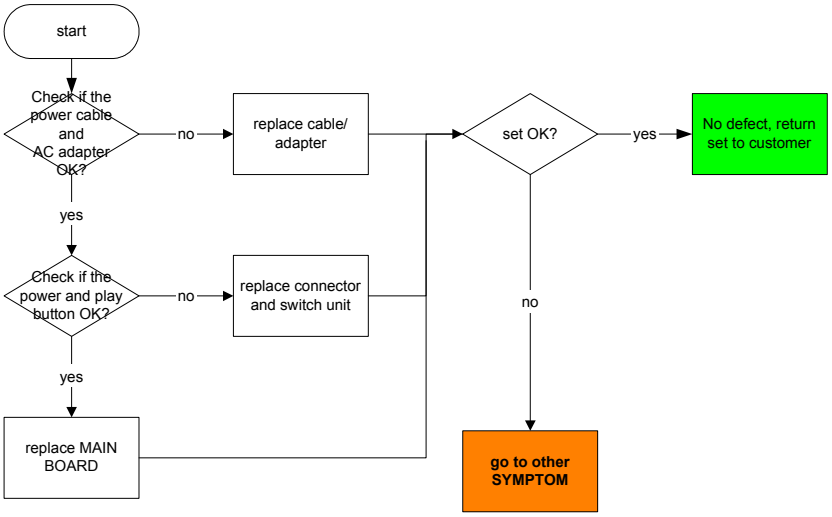
1. Power on player and open DVD Door.
2. Press <Set Up> at Remote Control. In <Set Up Menu> select <Preferences>.
3. For PET706 - Press successively 2 1 2 2 2 5.◀.▼.
4. Display will show <Region Code 2> for Europe:
5. Press key to input preference region code (see below table).
6. Switch off and re-switch on the product.
7. Verify Region code change done.

Region Code	Region
1	USA
2	EUROPE
3	ASIA PACIFIC
4	AUSTRALIA, NEW ZEALAND, LATAM
5	RUSSIA, INDIA
6	CHINA

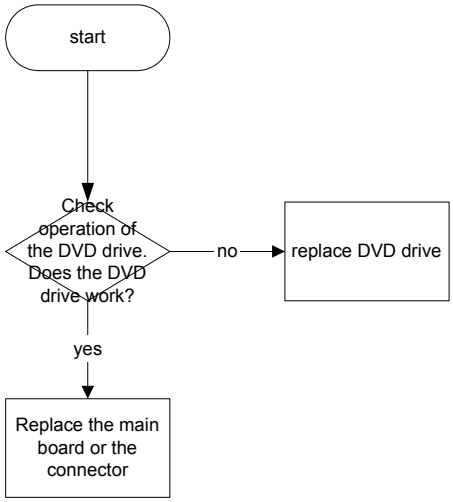
REMARKS:
1. Password is CONFIDENTIAL.
2. Region code is printed on product type plate. Due to DVD legislation region codes different to assigned region may not be released.

5.0 TROUBLESHOOTING & SERVICE TIPS

SYMPTOM: NO POWER, NO GREEN LED

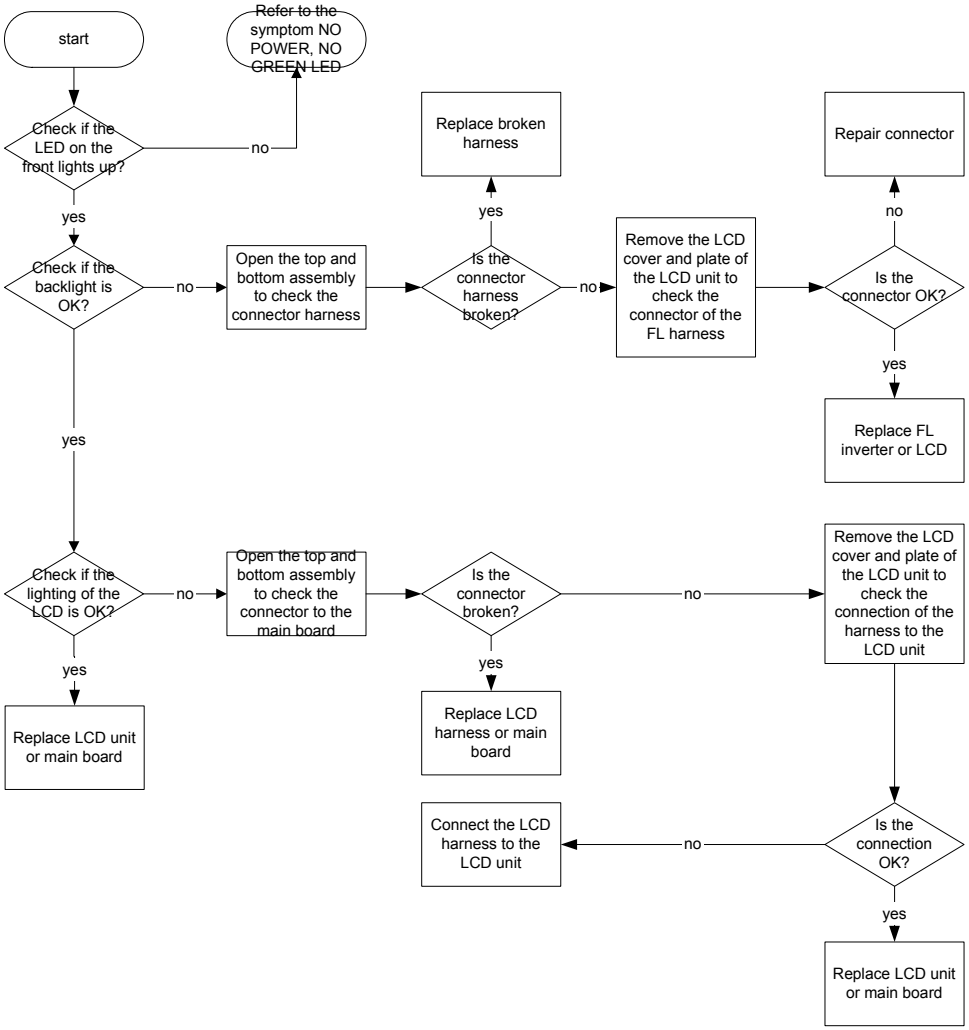


SYMPTOM: NO IMAGE OR SOUND COMES OUT FROM THE EXTERNAL OUTPUT

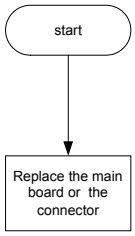

start
Check operation of the DVD drive. Does the DVD drive work?
no
replace DVD drive
yes
Replace the main board or the connector

5.0 TROUBLESHOOTING & SERVICE TIPS

SYMPTOM: THE INITIAL SCREEN IS NOT DISPLAYED ON THE LCD

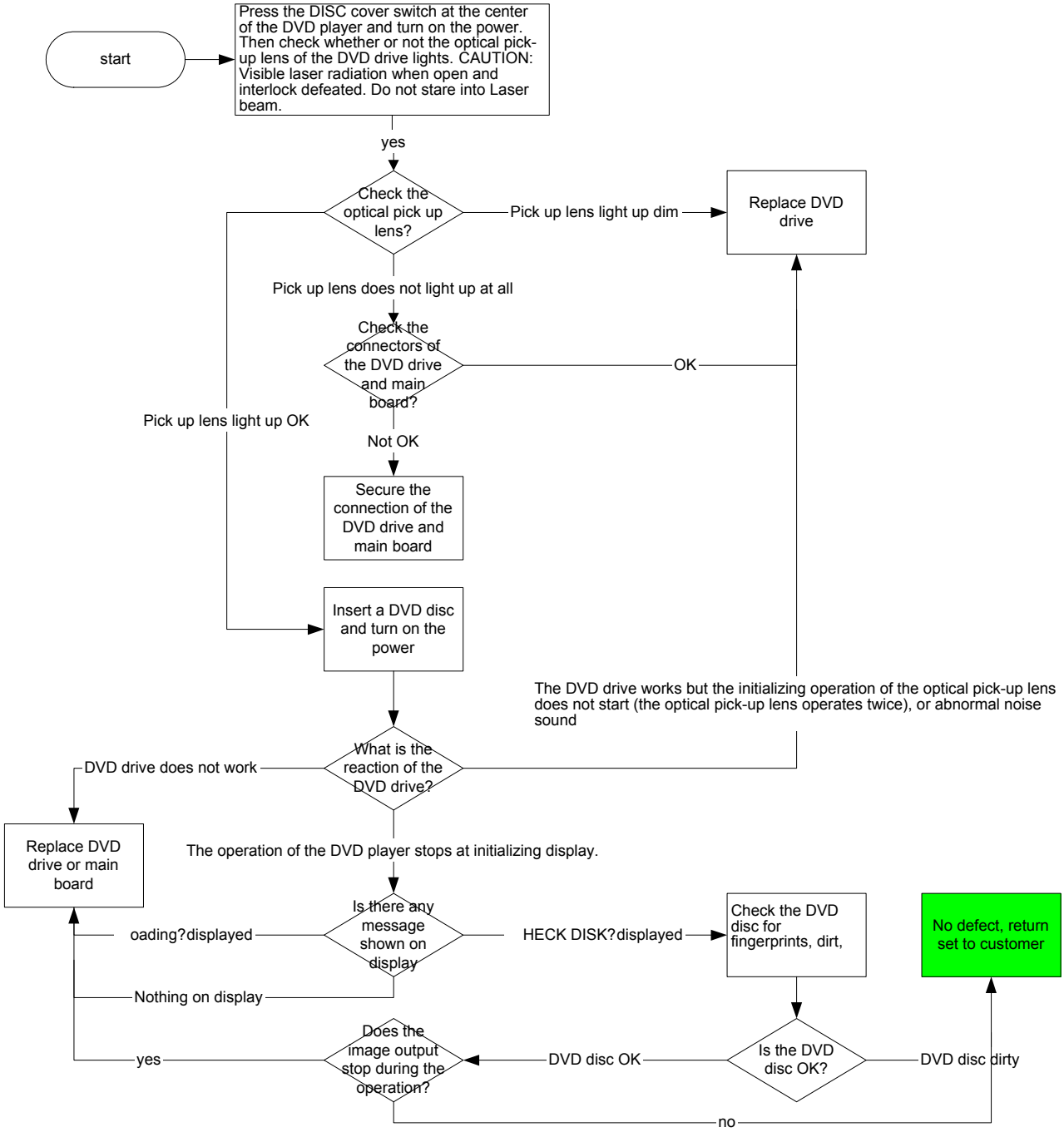

start
Refer to the symptom NO POWER, NO GREEN LED
Check if the LED on the front lights up?
no
yes
Check if the backlight is OK?
no
Open the top and bottom assembly to check the connector harness
Is the connector harness broken?
yes
Replace broken harness
no
Remove the LCD cover and plate of the LCD unit to check the connector of the FL harness
Is the connector OK?
no
Repair connector
yes
Replace FL inverter or LCD
yes
Check if the lighting of the LCD is OK?
no
Open the top and bottom assembly to check the connector to the main board
Is the connector broken?
no
Remove the LCD cover and plate of the LCD unit to check the connection of the harness to the LCD unit
yes
Replace LCD unit or main board
yes
Replace LCD harness or main board
Connect the LCD harness to the LCD unit
no
Is the connection OK?
yes
Replace LCD unit or main board

SYMPTOM: NO IMAGE OR SOUND COMES OUT FROM THE EXTERNAL INPUT



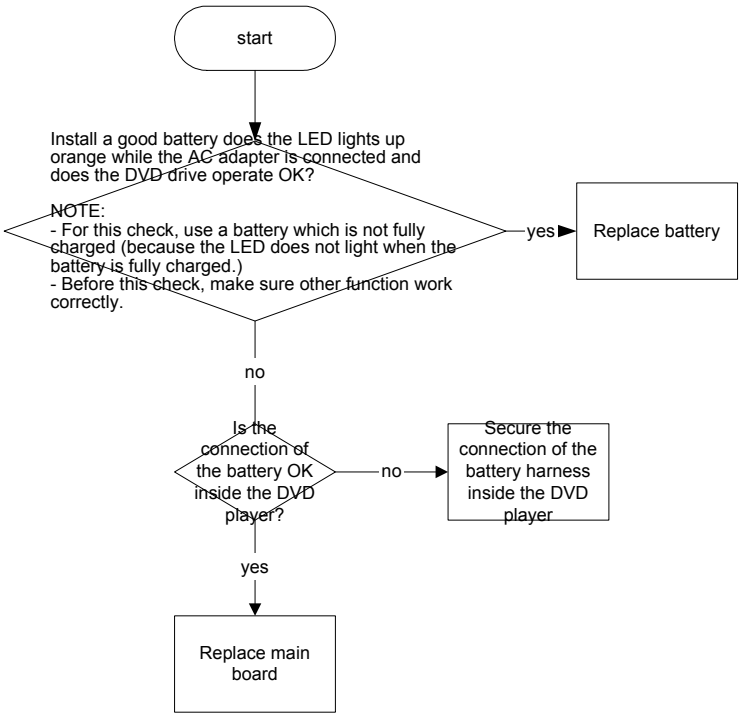
5.0 TROUBLESHOOTING & SERVICE TIPS

SYMPTOM: THE DVD DRIVE DOES NOT WORK

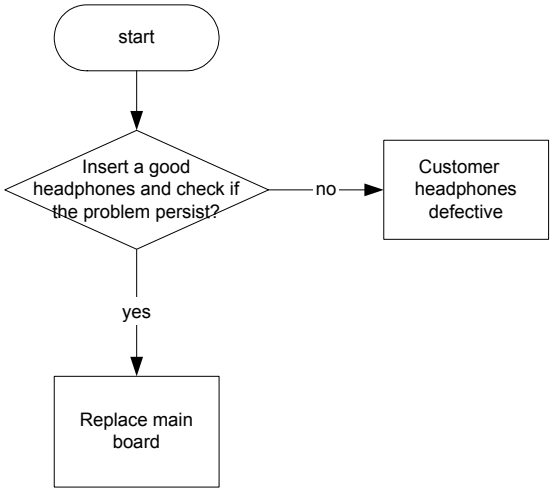

start
Press the DISC cover switch at the center of the DVD player and turn on the power. Then check whether or not the optical pick-up lens of the DVD drive lights. CAUTION: Visible laser radiation when open and interlock defeated. Do not stare into Laser beam.
yes
Check the optical pick up lens?
Pick up lens light up dim
Replace DVD drive
Pick up lens does not light up at all
Check the connectors of the DVD drive and main board?
OK
Pick up lens light up OK
Not OK
Secure the connection of the DVD drive and main board
Insert a DVD disc and turn on the power
The DVD drive works but the initializing operation of the optical pick-up lens does not start (the optical pick-up lens operates twice), or abnormal noise sound
What is the reaction of the DVD drive?
DVD drive does not work
Replace DVD drive or main board
The operation of the DVD player stops at initializing display.
Is there any message shown on display
oading?displayed
HECK DISK?displayed
Check the DVD disc for fingerprints, dirt,
No defect, return set to customer
Nothing on display
Does the image output stop during the operation?
yes
DVD disc OK
Is the DVD disc OK?
DVD disc dirty
no

5.0 TROUBLESHOOTING & SERVICE TIPS

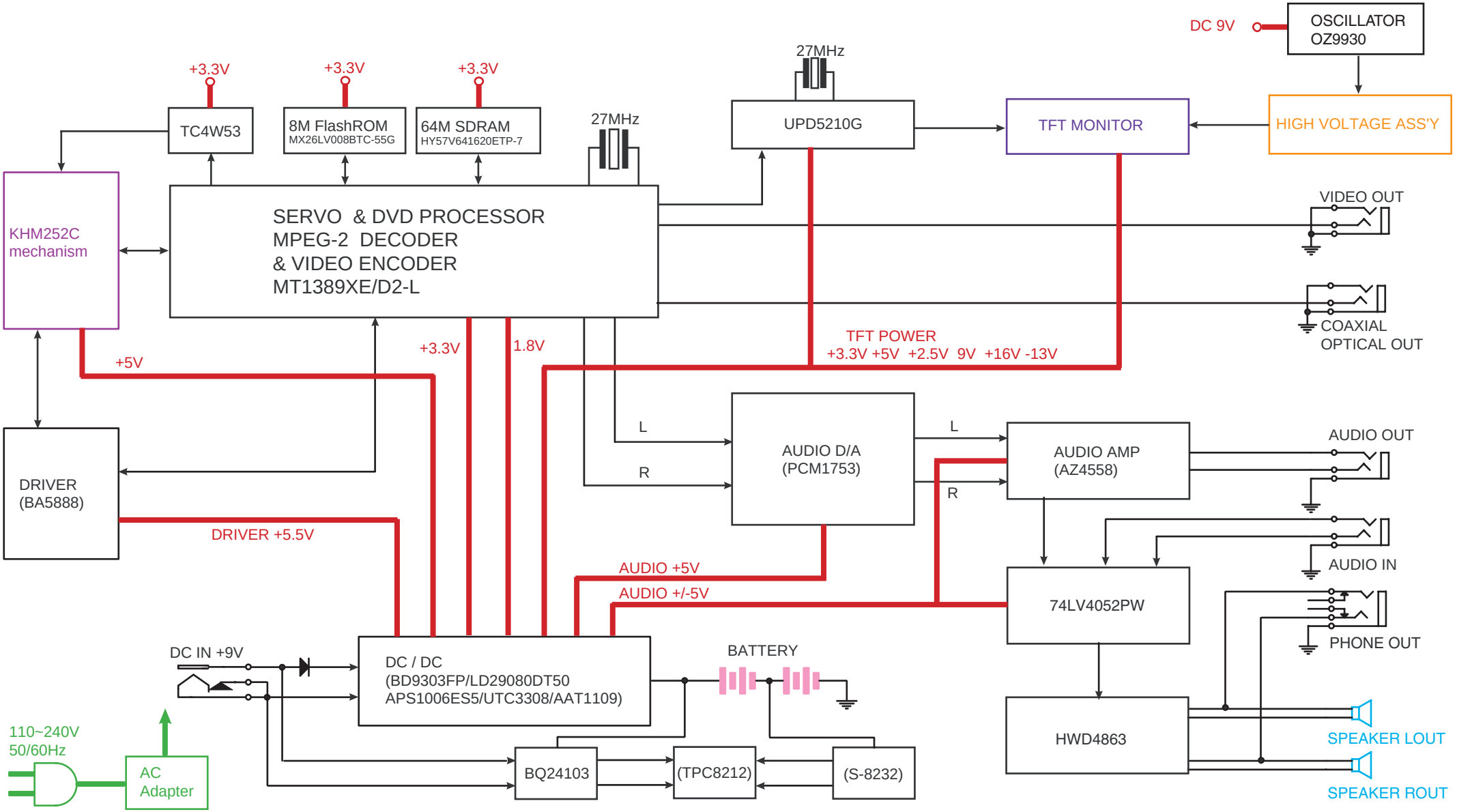
SYMPTOM: THE DVD DRIVE DOES NOT OPERATE WITH BATTERY


start
Install a good battery does the LED lights up orange while the AC adapter is connected and does the DVD drive operate OK?
NOTE:
- For this check, use a battery which is not fully charged (because the LED does not light when the battery is fully charged.)
- Before this check, make sure other function work correctly.
yes
Replace battery
no
Is the connection of the battery OK inside the DVD player?
no
Secure the connection of the battery harness inside the DVD player
yes
Replace main board

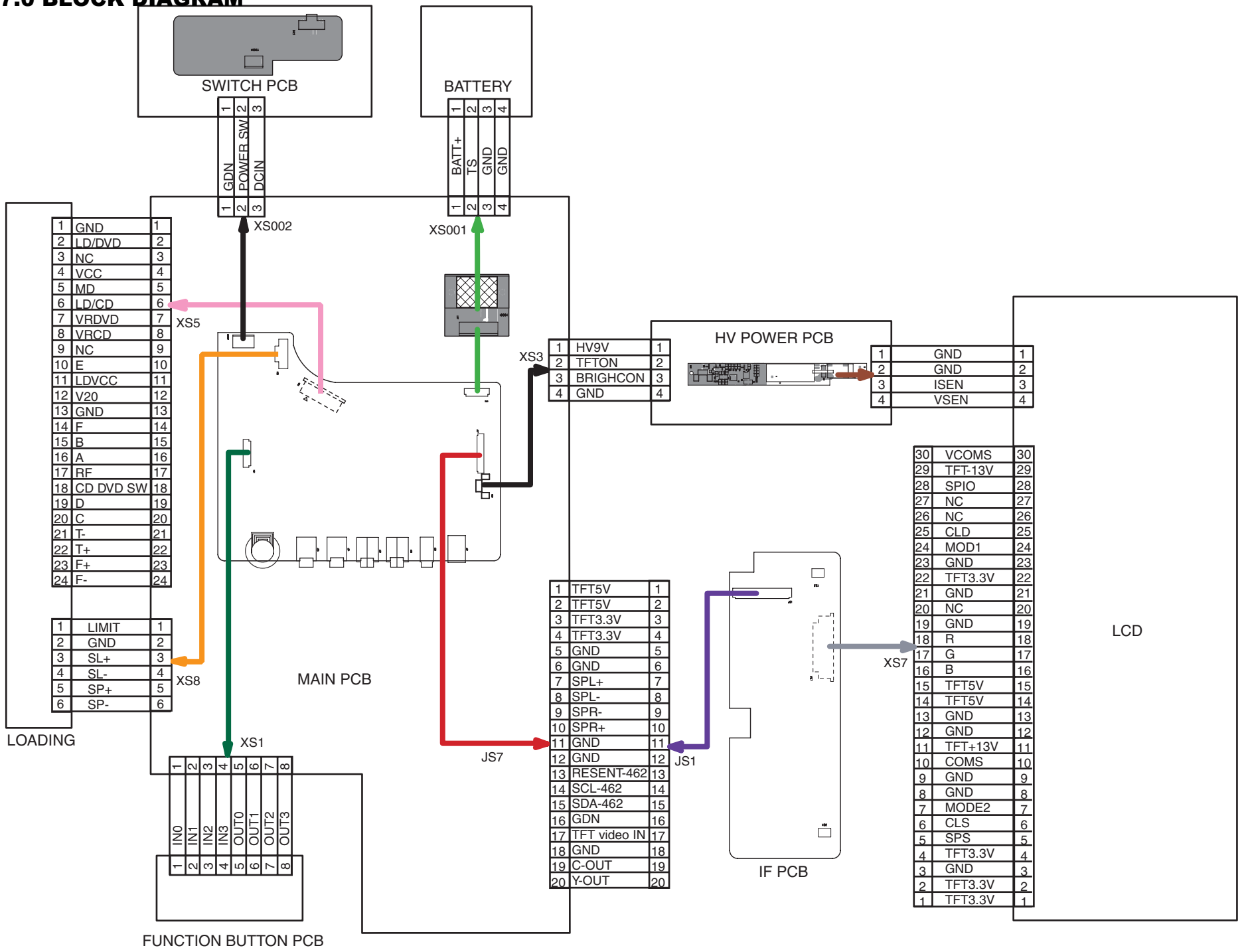
SYMPTOM: NO SOUND COMES FROM THE HEADPHONES



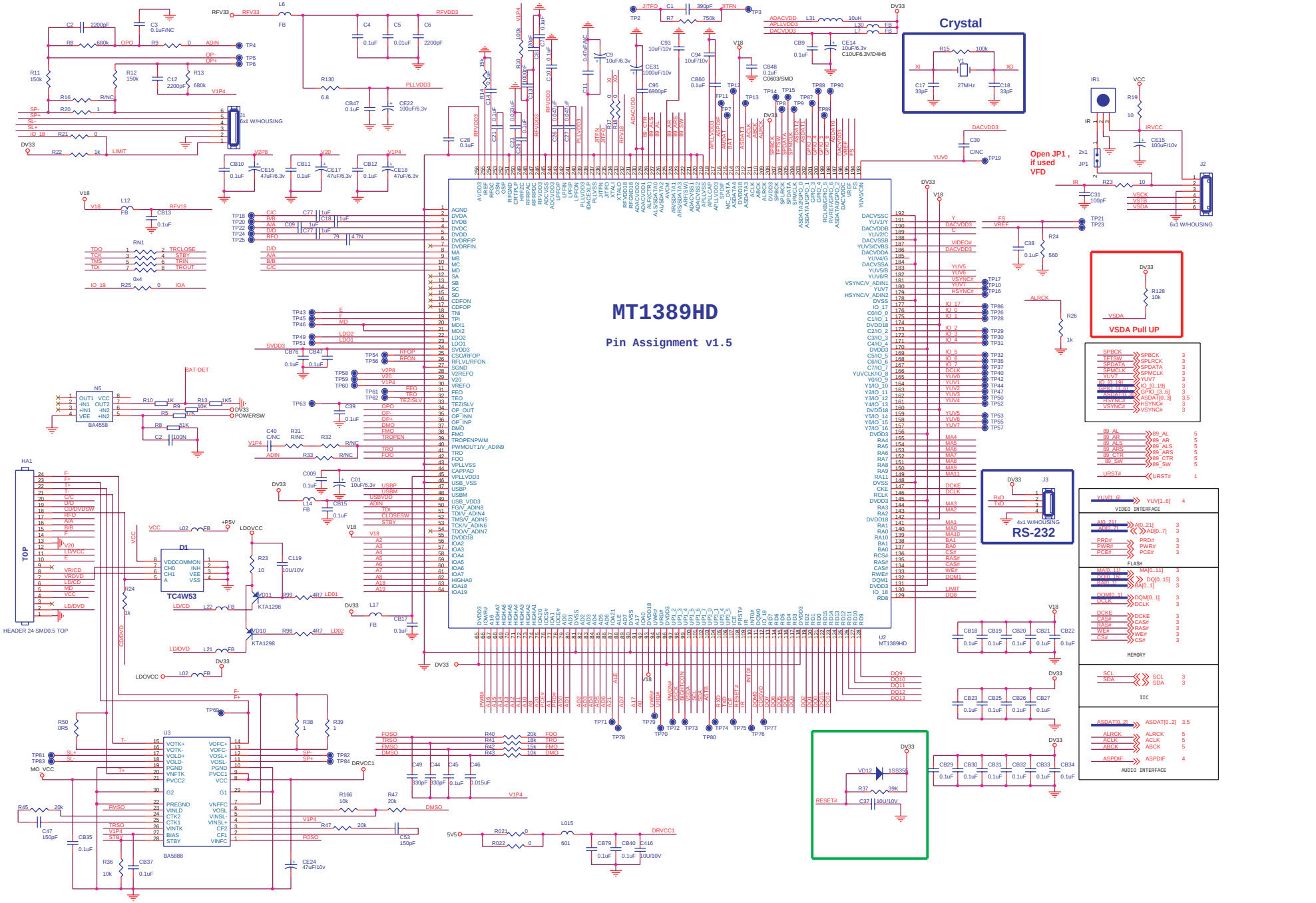
6.0 OVERALL BLOCK DIAGRAM



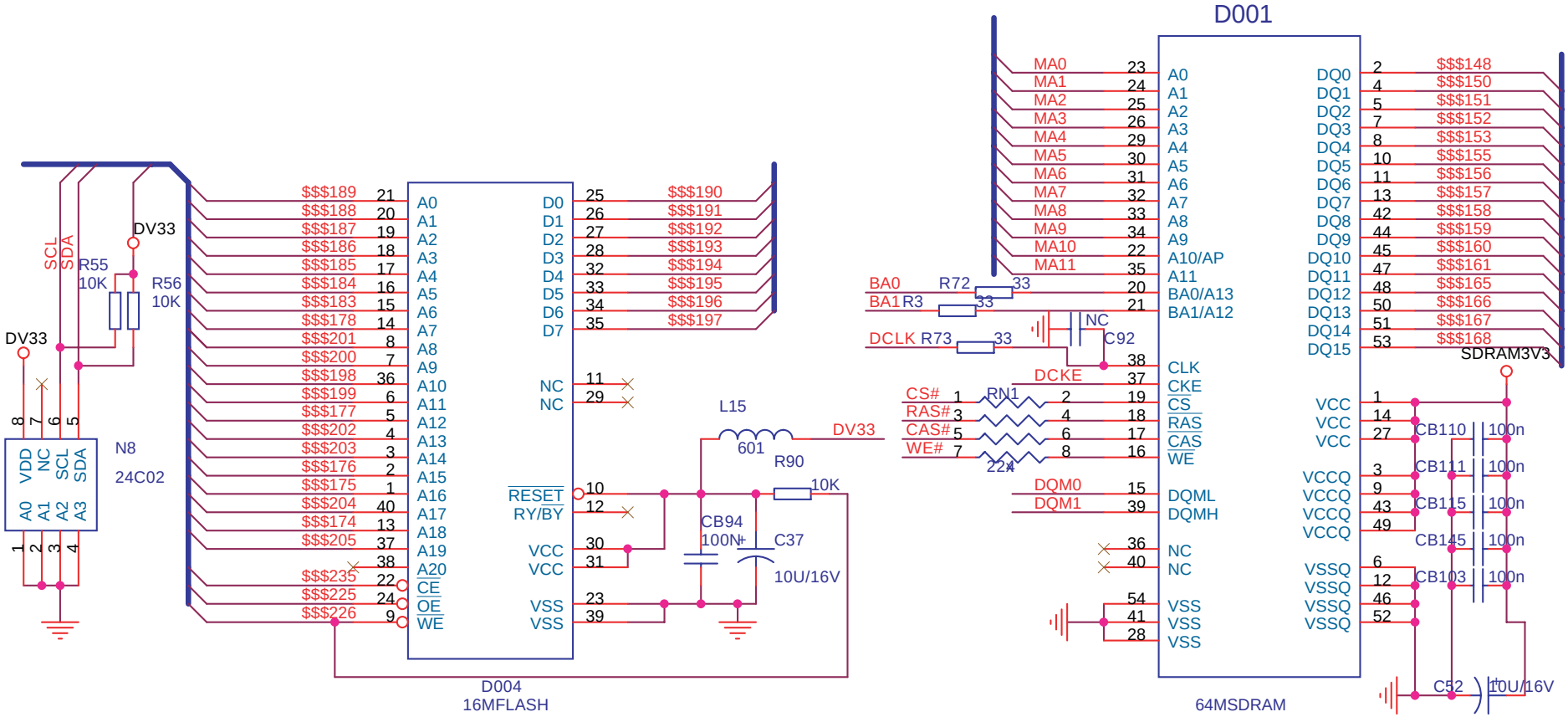
7.0 BLOCK DIAGRAM



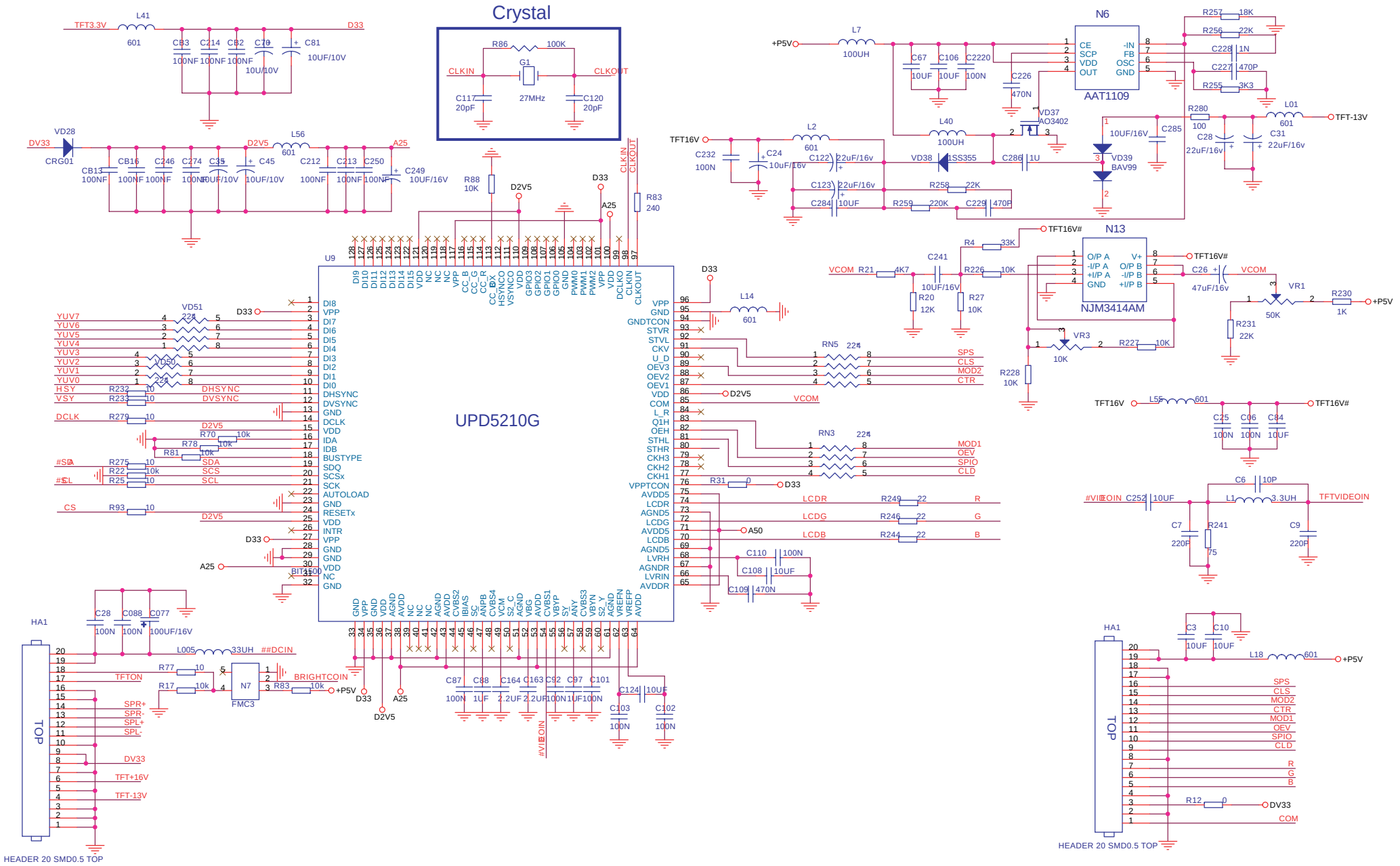
8.0 ELECTRICAL DIAGRAM
MAIN BOARD CIRCUIT DIAGRAM (MPEG)



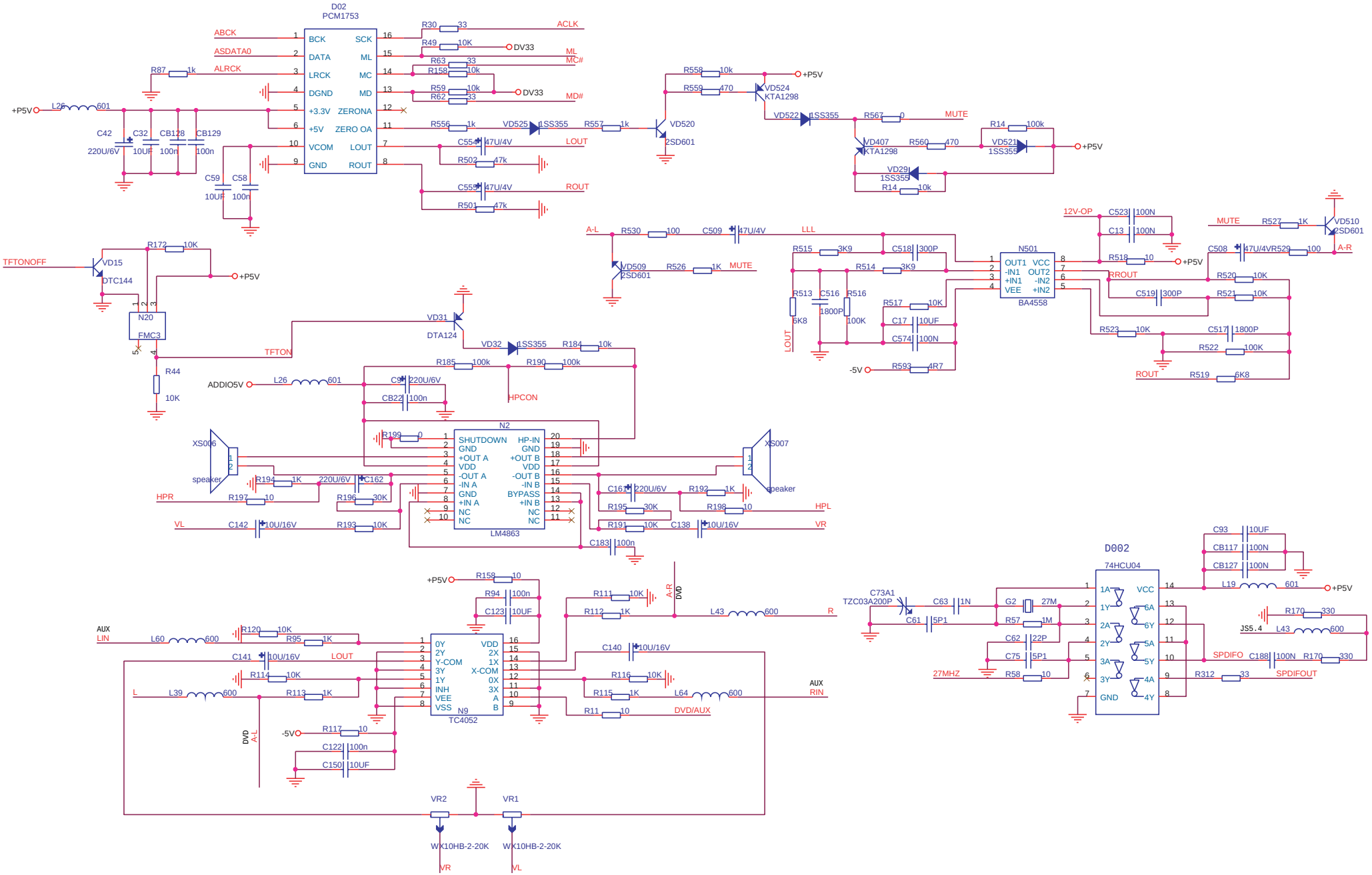
8.0 ELECTRICAL DIAGRAM
MAIN BOARD CIRCUIT DIAGRAM (FLASH & SDRAM)



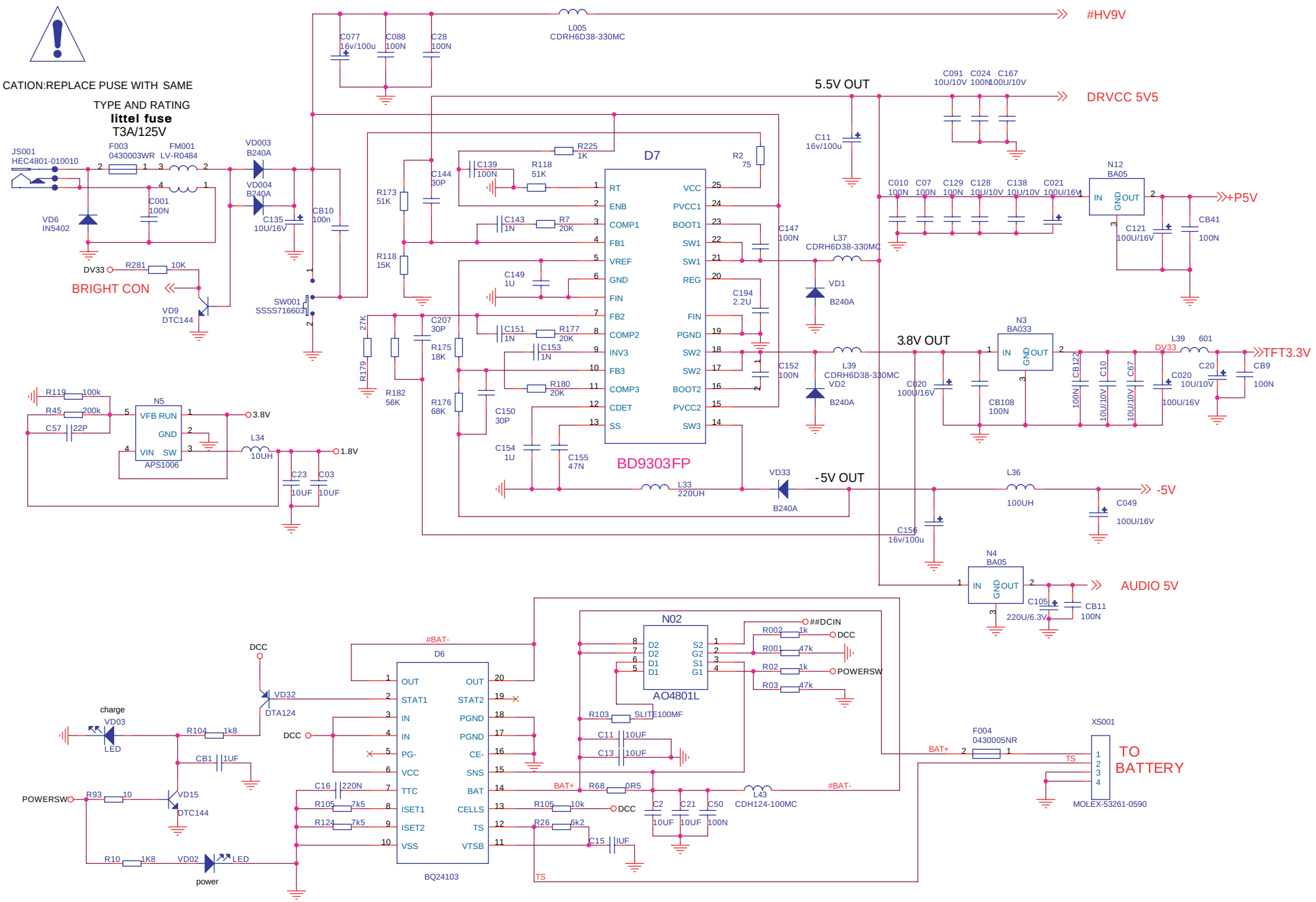
8.0 ELECTRICAL DIAGRAM
MAIN BOARD CIRCUIT DIAGRAM (UPD5210)



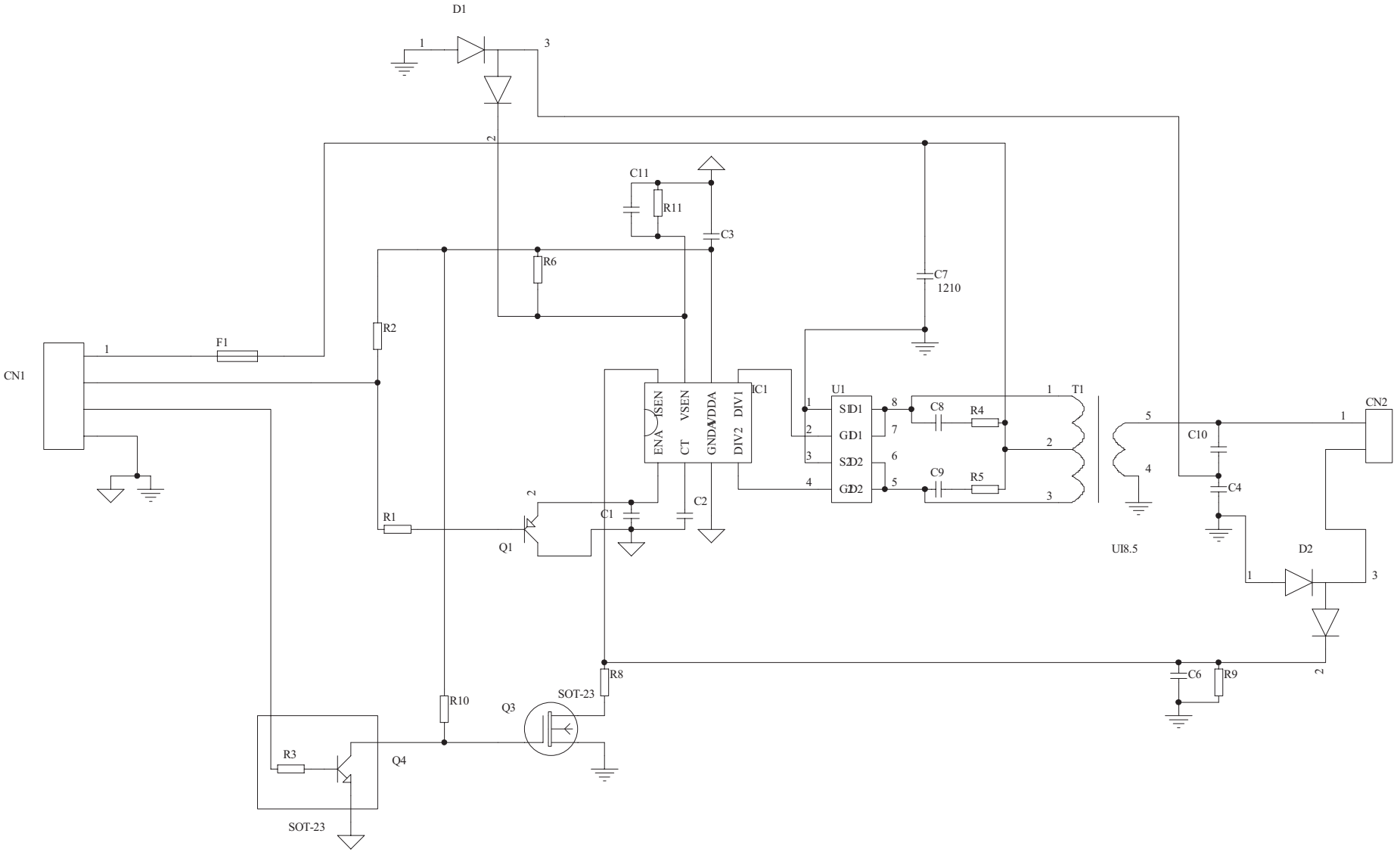
8.0 ELECTRICAL DIAGRAM
MAIN BOARD CIRCUIT DIAGRAM (AUDIO)



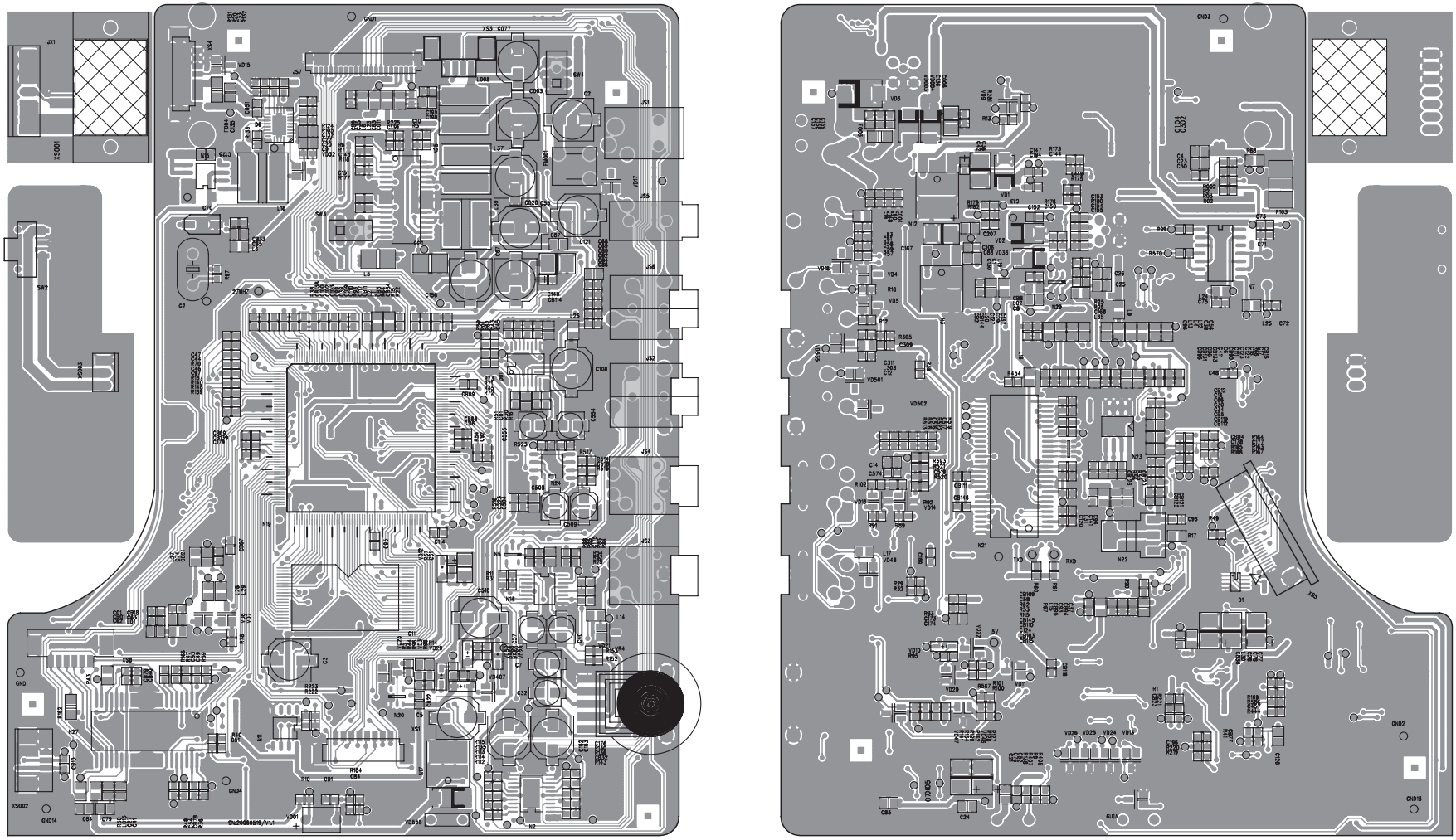
8.0 ELECTRICAL DIAGRAM
MAIN BOARD CIRCUIT DIAGRAM (DC POWER)



8.0 ELECTICAL DIAGRAM - HIGH VOLTAGE BOARD CIRCUIT DIAGRAM

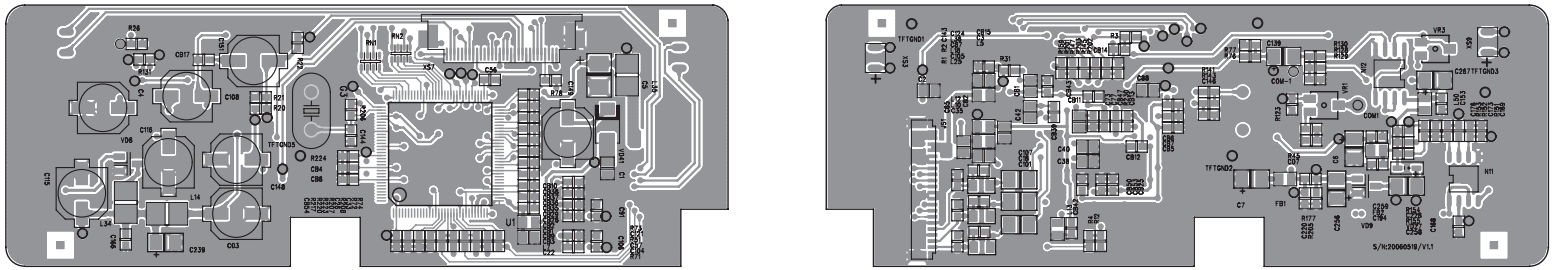


9.0 COMPONENT LAYOUT

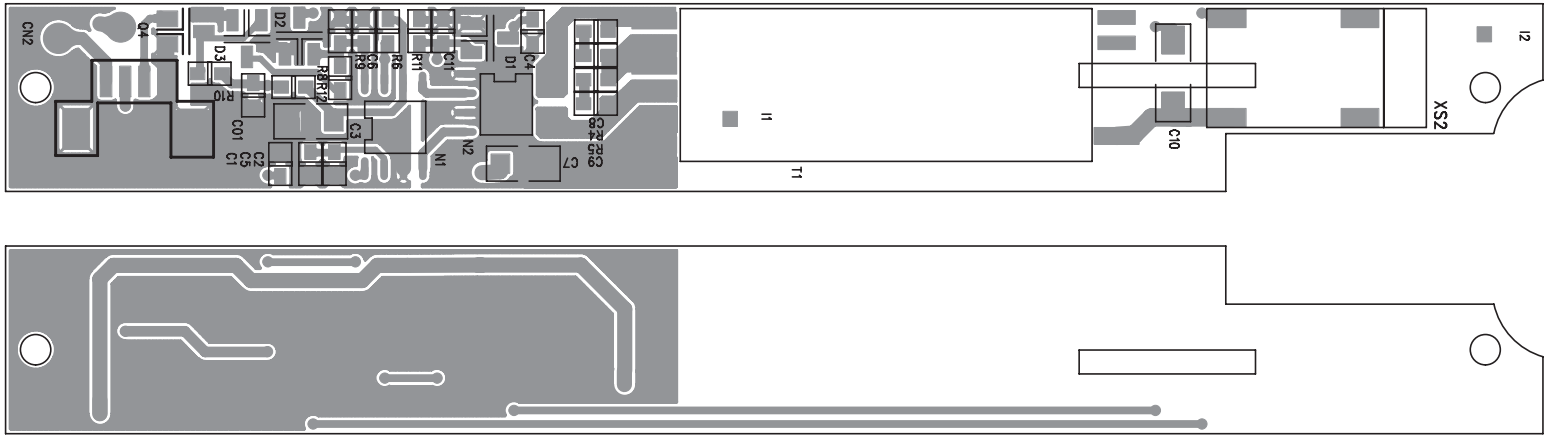


PET706 MAIN BOARD DIAGRAM

9.0 COMPONENT LAYOUT



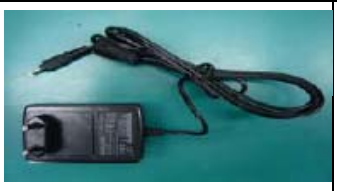
PET706 IF BOARD DIAGRAM



PET706 HV BOARD DIAGRAM

10.0 SERVICE PARTS LIST

The following service BOMs are applied for all versions unless specified.

Model#	Philips 12NC	Spare part description	Photo	Location Code
PET706 PET707	996500038671	RB-LI73 LITHIUM BATTERY		BATTERY
PET706 PET707	994000003945	RC810 REMOTE CONTROL		RC
PET706	994000001912	AV CABLE		AVCABLE
PET707	996510001125	AV OUT CABLE		
PET706	996500038678	CAR CIGARETTE ADAPTOR		CARADAPTOR
PET707	996510001124			
PET706/00	996500038689	ADPV25A AC ADAPTOR/00		ACADAPTOR
PET707/00	996510001129	AC ADAPTER AY4130/00		
PET706/05	994000003524	ADPV18A AC ADAPTOR/05		ACADAPTOR
PET707/05	996510001119	AC ADAPTER AY4130/05		
PET706/75	994000005792	ADPV18A AC POWER ADAPTOR/75		ACADAPTOR
PET707	996510001130	CAR MOUNT		CARMOUNT
PET707	996510001131	PAC130 SECOND SCREEN		PAC130
PET707	996510001128	PAC130 POWER CABLE		PCABLE

10.0 SERVICE PARTS LIST

The following service BOMs are applied for all versions unless specified.
Note: Different spare parts are applied for S/N: LL01xxxxxxxx & LL2Bxxxxxxxx.

Model#	Philips 12NC	Spare part description	Photo	Location Code
PET706/00 PET706/05 PET706/75 PET707/00 PET707/05	996500038672	PET706M MAIN PCBA (for S/N: LL01xxxxxxxx)		100
PET706/00 PET706/05	996510002006	PET706 LED MAIN PCBA (for S/N: LL2Bxxxxxxxx)		
PET706/00 PET706/05 PET707/00 PET707/05	996500038673	PET706 IF PCBA (for S/N: LL01xxxxxxxx)		110
PET706/00 PET706/05	996510002007	PET706 LED HV & IF PCBA (for S/N: LL2Bxxxxxxxx)		
PET706/75	996500041646	PET706/75 IF PCBA (for S/N: LL01xxxxxxxx)		
	996500038673	PET706 IF PCBA (for S/N: LL2Bxxxxxxxx)		
PET706/00 PET706/05 PET707/00 PET707/05	996500038674	PET706 HV PCBA (for S/N: LL01xxxxxxxx)		120
PET706/00 PET706/05	Not available	HV PCBA is combine with IF PCBA (for S/N: LL2Bxxxxxxxx)		
PET706/75	996500041647	PET706/75 HV PCBA (for S/N: LL01xxxxxxxx)		
	996500038674	PET706 HV PCBA (for S/N: LL2Bxxxxxxxx)		
PET706/00 PET706/05 PET707/00 PET707/05	996500038676	LB070W02-TMB2 TFT LCD (for S/N: LL01xxxxxxxx)		200
PET706/00 PET706/05	996510001275	LB070W02-TME1-SC TFT LCD (for S/N: LL2Bxxxxxxxx)		
PET706/75	996500041648	AT070TN01-V.2 TFT LCD (for S/N: LL01xxxxxxxx)		
	996500038676	LB070W02-TMB2 TFT LCD (for S/N: LL2Bxxxxxxxx)		

10.0 SERVICE PARTS LIST

The following service BOMs are applied for all versions unless specified.

Model#	Philips 12NC	Spare part description	Photo	Location Code
PET706 PET707	996500038675	PET706K FUNCTION PCBA		130
PET706 PET707	994000002241	20 PIN HARNESS (LE105)		142
PET706 PET707	996500038677	FFC 24 PIN (LE130)		147
PET706 PET707	994000004424	KHM-252C LOADING ASSY		210
PET706 PET707	994000002165	SPEAKER		220
PET706 PET707	996500038687	PET706 SPEAKER GRILL		230
PET706 PET707	996500038679	PET706 TOP COVER		300
PET706 PET707	996500038682	PET706 DISPLAY FRAME		310
PET706 PET707	996500038681	PET706 MIDDLE CARINET		320

10.0 SERVICE PARTS LIST

The following service BOMs are applied for all versions unless specified.

Model#	Philips 12NC	Spare part description	Photo	Location Code
PET706	996500038680	PET706 BASE COVER		330
PET707	996510001127	PET707 BASE COVER		
PET706 PET707	996500038688	PET706 FUNCTION KEY DISCRETENESS		350
PET706 PET707	996500038686	PET706 DVD DOOR		360
PET707	996510001126	HINGE		370
PET706 PET707	996500038683	DOOR SPRING		410
PET706 PET707	996500038684	TOP COVER LOCK SPRING		420
PET706 PET707	996500038685	OPEN DOOR SPRING		430

11.0 REVISION LIST

Version 1.0 (3141 785 31200)

- Initial release

Version 1.1 (3141 785 31201)

- Update Section 10,
    - Replaced 994000002241 (LE140) by 994000002242 (LE105)
    - Added new spare part for PET706/75 (996500041646 / 996500041647 / 996500041648 / 994000005792)
    - Added location code of spare parts

Version 1.2 (3141 785 31202)

- Update Section 10,
    - Added spare parts for PET707/00 & PET707/05

Version 1.3 (3141 785 31203)

- Update Section 10,
    - Added spare parts for PET706 with S/N: LL2Bxxxxxxxx